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DB=USPT; PLUR=YES; OP=OR			
L5	6015884.pn.	1	L5
L4	6140113.pn.	1	L4
DB=USPT,JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L3	L2 and lymphokine	57	L3
L2	L1 and immunoglobulin$	143	L2
L1	mhc same fusion adj protein$	209	L1

END OF SEARCH HISTORY

```
=> s Ig-fusion protein

L1          201 IG-FUSION PROTEIN

=> s T cell receptor

   3 FILES SEARCHED...
L2        46141 T-CELL RECEPTOR

=> s l1 and l2

L3           26 L1 AND L2

=> dup rem l3

PROCESSING COMPLETED FOR L3
L4             8 DUP REM L3 (18 DUPLICATES REMOVED)

=> d l4 1-2


L4   ANSWER 1 OF 8  MEDLINE                                  DUPLICATE 1
AN   1998068647     MEDLINE
DN   98068647
TI   Expression of B7-1 by Pam 212 squamous cell carcinoma enhances tumor
     cell interactions with dendritic epidermal cells but does not affect
     in vivo tumor growth.
AU   Yeh K Y; Chen Z; Nasir A; Ohsuga Y; Takashima A; Lord E M; Gaspari A
     A
CS   Department of Microbiology and Immunology, University of Rochester
     School of Medicine and Dentistry, New York 14642, USA.
NC   1R29AR40933 (NIAMS)
SO   JOURNAL OF INVESTIGATIVE DERMATOLOGY, (1997 Dec) 109 (6) 728-33.
     Journal code: IHZ. ISSN: 0022-202X.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals; Cancer Journals
EM   199803
EW   19980302

L4   ANSWER 2 OF 8  MEDLINE                                  DUPLICATE 2
AN   97406313     MEDLINE
DN   97406313
TI   High concentrations of antigenic ligand activate and do not tolerize
     naive CD4 T cells in the absence of CD28/B7 costimulation.
AU   Teh H S; Teh S J
CS   Department of Microbiology and Immunology, University of British
     Columbia, Vancouver, Canada.. teh@unixg.ubc.ca
SO   CELLULAR IMMUNOLOGY, (1997 Jul 10) 179 (1) 74-83.
     Journal code: CQ9. ISSN: 0008-8749.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals; Cancer Journals
EM   199711
EW   19971102
```

=> d l4 1-8 bib ab

L4 ANSWER 1 OF 8 MEDLINE DUPLICATE 1
AN 1998068647 MEDLINE
DN 98068647
TI Expression of B7-1 by Pam 212 squamous cell carcinoma enhances tumor cell interactions with dendritic epidermal cells but does not affect in vivo tumor growth.
AU Yeh K Y; Chen Z; Nasir A; Ohsuga Y; Takashima A; Lord E M; Gaspari A A
CS Department of Microbiology and Immunology, University of Rochester School of Medicine and Dentistry, New York 14642, USA.
NC 1R29AR40933 (NIAMS)
SO JOURNAL OF INVESTIGATIVE DERMATOLOGY, (1997 Dec) 109 (6) 728-33. Journal code: IHZ. ISSN: 0022-202X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199803
EW 19980302
AB Direct antigen presentation of tumor-associated antigens by tumor cells to T lymphocytes may induce clonal anergy as a mechanism of escape from immune surveillance. B7-1 is a costimulatory molecule for the activation of both CD4+ and CD8+ T lymphocytes that prevents the induction of clonal anergy. Thus, the transfer of B7-1 genes into tumor cells can induce protective immunity and lead to tumor rejection of some tumors in model systems of in vivo tumor growth; however, there is no information on whether stable expression of B7-1 can affect the in vivo growth of squamous cell carcinoma, a common skin cancer. Here, we study how the stable cell surface expression of high levels of B7-1 by Pam 212, a murine squamous cell carcinoma, affects tumor cell-lymphocyte interactions (lymphocyte proliferation and cytotoxicity). Consistent with its costimulatory role, we demonstrate that B7-1 can efficiently induce dendritic epidermal T-cell proliferation in three different dendritic epidermal T-cell cell lines. In addition, B7-1 enhances dendritic epidermal T-cell cytolytic activity against Pam 212 cells in an in vitro 51Cr-release assay, which was blocked by CTLA-4/ ***Ig*** ***fusion*** ***protein*** . In contrast to dendritic epidermal T cells, the expression of B7-1 does not alter Pam 212 interactions with either cytotoxic T-lymphocytes, natural killer, or lymphokine-activated killer cells. B7-1 expression by Pam 212 cells did not alter its ability to grow tumors in vivo, as their rate of tumor growth was the same as vector-transfected Pam 212 cells, which were B7-1 negative. Our studies indicate that B7-1 gene transfer into Pam 212 does not alter its tumorigenicity, because it does not alter tumor cell-lymphocyte interactions with cytotoxic T lymphocytes, natural killer cells, and lymphokine-activated killer cells. Further studies of B7-1 modified Pam 212 and dendritic epidermal T cells will clarify whether ***T*** - ***cell*** ***receptor*** -gamma/delta-bearing T lymphocytes can play a role in immunotherapy of Pam 212 squamous cell carcinoma.

L4 ANSWER 2 OF 8 MEDLINE DUPLICATE 2

AN 97406313 MEDLINE
DN 97406313
TI High concentrations of antigenic ligand activate and do not tolerize naive CD4 T cells in the absence of CD28/B7 costimulation.
AU Teh H S; Teh S J
CS Department of Microbiology and Immunology, University of British Columbia, Vancouver, Canada.. teh@unixg.ubc.ca
SO CELLULAR IMMUNOLOGY, (1997 Jul 10) 179 (1) 74-83.
Journal code: CQ9. ISSN: 0008-8749.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199711
EW 19971102
AB We evaluated whether signals transmitted through the ***T*** ***cell*** ***receptor*** (TCR) can activate naive CD4 T cells expressing a transgenic TCR specific for a defined peptide/MHC ligand in the absence of CD28/B7 costimulation. Our results showed that CD28/B7 costimulation was required at low, but not at high, concentrations of antigenic ligand. This was the case whether the CD28/B7 costimulatory pathway was blocked by CTLA-4 ***Ig*** ***fusion*** ***protein*** or by the chemical fixation of antigen-presenting cells. Naive CD4 cells stimulated with high concentrations of antigen and without CD28 costimulation produced low but detectable amounts of IL-2 and interferon-gamma. Furthermore, naive CD4 T cells activated for a 7-day period by either low or high concentrations of antigen with or without CD28 costimulation were functionally similar, indicating that signals transmitted through the TCR were not intrinsically tolerogenic for CD4 T cells.

L4 ANSWER 3 OF 8 MEDLINE DUPLICATE 3
AN 96206152 MEDLINE
DN 96206152
TI Expression and function of B7-1 (CD80) and B7-2 (CD86) on human epidermal Langerhans cells.
AU Rattis F M; Peguet-Navarro J; Staquet M J; Dezutter-Dambuyant C; Courtellemont P; Redziniak G; Schmitt D
CS Laboratorie Peau Humaine et Immunite, INSERM U346, Lyon, France.
SO EUROPEAN JOURNAL OF IMMUNOLOGY, (1996 Feb) 26 (2) 449-53.
Journal code: EN5. ISSN: 0014-2980.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199608
AB In addition to ***T*** ***cell*** ***receptor*** triggering, activation of T cells requires costimulatory signals that have been shown to be mainly initiated through CD28. We analyzed the expression and function of the two ligands for CD28, B7-1 (CD80) and B7-2 (CD86), on human Langerhans cells (LC), the antigen-presenting cells from epidermis. Human LC freshly isolated from epidermis (fLC) expressed significant level of B7-2, which was increased upon a short culture in vitro. In contrast, B7-1 was undetectable on fLC but appeared at the cell surface after a 3-day culture in vitro. Pre-incubation of 18-h cultured LC with anti-B7-2

monoclonal antibodies (mAB) was sufficient to abrogate the binding of CTLA4- ***Ig*** ***fusion*** ***protein*** , while a combination of both mAB against B7-1 and B7-2 was necessary to obtain a complete inhibition of CTLA4-Ig binding on 3-day cultured LC, showing the absence of a third CTLA4 ligand. The function of B7-1 and B7-2 on human LC has been analyzed by adding mAb at the beginning of mixed epidermal cell lymphocyte reactions. Anti-B7-2 mAb and CTLA4-Ig, but not anti-B7-1 mAb, strongly inhibited allogenic. as well as recall antigen-induced T cell proliferation supported by fLC or 3-day cultured LC. Collectively, these results demonstrate that B7-2 is the major ligand for CD28/CTLA4 at the LC surface and that it plays a crucial role in human LC co-stimulatory function with little, if any, dependence of B7-1 expression.

L4 ANSWER 4 OF 8 MEDLINE DUPLICATE 4
AN 96026913 MEDLINE
DN 96026913
TI Vascular cell adhesion molecule (VCAM)- ***Ig*** ***fusion*** ***protein*** defines distinct affinity states of the very late antigen-4 (VLA-4) receptor.
AU Jakubowski A; Rosa M D; Bixler S; Lobb R; Burkly L C
CS Biogen, Inc., Cambridge, MA 02142, USA.
SO CELL ADHESION AND COMMUNICATION, (1995 May) 3 (2) 131-42.
Journal code: B4A. ISSN: 1061-5385.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199602
AB The Very Late Antigen-4 receptor (VLA-4) (alpha 4 beta 1) is constitutively expressed on leukocytes and plays a role in cell trafficking, activation and development through its interaction with two alternative ligands, Vascular Cell Adhesion Molecule (VCAM-1) and fibronectin (FN). VLA-4-dependent cell adhesion is augmented by various stimuli, such as divalent cations, certain beta 1-specific monoclonal antibodies (mAbs) and cell activation. However, the steps of the adhesive process which they affect are currently undefined. In order to investigate whether or not these stimuli affect the primary step, VLA-4/ligand binding, we employed a recombinant VCAM-IgG fusion protein (VCAM-Ig) as a soluble ligand for VLA-4. Using this soluble ligand, we have directly demonstrated that the VLA-4 receptor can exist in at least three different affinity states on the cell surface. Two distinct high affinity states are induced on normal peripheral blood T cells, one by the anti-beta 1 mAb TS2/16, and one of 15-20 fold higher affinity by the divalent cation Mn2+. Interestingly, activation through the ***T*** ***cell*** ***receptor*** (TcR), through CD31 or by the Macrophage Inflammatory Protein-1 beta chemokine (MIP-1 beta) do not detectably increase VLA-4 affinity although they do augment VLA-4 dependent cell adhesion in vitro. Thus, VCAM-Ig binding defines high affinity VLA-4 receptors, revealing unique effects of the TS2/16 mAb and Mn2+ cations in vitro, and distinguishes VLA-4/VCAM interactions from subsequent steps in cell adhesion.

L4 ANSWER 5 OF 8 MEDLINE DUPLICATE 5
AN 94216822 MEDLINE
DN 94216822

TI Resting and anergic B cells are defective in CD28-dependent costimulation of naive CD4+ T cells.
AU Ho W Y; Cooke M P; Goodnow C C; Davis M M
CS Department of Microbiology and Immunology, Stanford University School of Medicine, California 94305..
NC 2T32GM07365 (NIGMS)
AI-19512 (NIAID)
SO JOURNAL OF EXPERIMENTAL MEDICINE, (1994 May 1) 179 (5) 1539-49. Journal code: I2V. ISSN: 0022-1007.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199407
AB Successful antibody production in vivo depends on a number of cellular events, one of the most important of these being cognate B cell-T cell interaction. To examine this phenomenon in vitro, homogeneous populations of hen egg lysozyme (HEL)-specific small resting B cells and naive CD4+ HEL-specific T cells (derived from immunoglobulin [Ig] and ***T*** ***cell*** ***receptor*** transgenic mice, respectively) were cultured together. On addition of intact HEL protein. HEL-specific B cells increase their expression of activation molecules, including a B7-related protein and CD44, and enlarge into blast cells. Within the same cultures, HEL-specific CD4+ T cells also increase expression of the activation markers CD69 and CD44, enlarge, secrete lymphokines, and proliferate. This response is radiation sensitive, supporting the conclusion that HEL-specific B cells present antigen to and activate the naive T cells. By contrast, when a synthetic peptide fragment of HEL is used to bypass B cell antigen-receptor engagement, the naive T cells enlarge and display activation antigens, but fail to produce lymphokines, proliferate, or promote B cell blastogenesis. Presentation of HEL by tolerant B cells, which are no longer able to signal effectively through their antigen receptors, results in an identical pattern of incomplete T cell activation. Addition of a stimulating anti-CD28 antibody and blocking of CD28 signals with CTLA4/ ***Ig*** ***fusion*** ***protein*** both show that complete activation of naive CD4+ T cells depends on the initial induction of B7 and related costimulatory molecules after HEL binding to nontolerant HEL-specific B cells. Thus, in the absence of adequate constimulation from the B cell, naive CD4+ T cells undergo a form of "partial activation" in which they upregulate surface expression of certain T cell activation antigens, but fail to efficiently produce lymphokine and proliferate. This may explain the different conclusions that have been reached regarding the consequences of B cell antigen presentation to T cells, in that the ability of B cells to activate naive CD4+ T cells depends both on their specificity and their activation state.

L4 ANSWER 6 OF 8 MEDLINE DUPLICATE 6
AN 94237201 MEDLINE
DN 94237201
TI T cells of staphylococcal enterotoxin B-tolerized autoimmune MRL-lpr/lpr mice require co-stimulation through the B7-CD28/CTLA-4 pathway for activation and can be reanergized in vivo by stimulation of the ***T*** ***cell*** ***receptor*** in the absence of this co-stimulatory signal.

AU Zhou T; Weaver C; Linsley P S; Mountz J D
CS Department of Medicine, University of Alabama at Birmingham..
NC P01 AR 03555 (NIAMS)
P50 AI 23694 (NIAID)
R01 AI 30744 (NIAID)
SO EUROPEAN JOURNAL OF IMMUNOLOGY, (1994 May) 24 (5) 1019-25.
Journal code: EN5. ISSN: 0014-2980.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199408
AB The CD28/CTLA-4 receptors on T cells interact with the B7 molecule on antigen-presenting cells (APC) to produce a co-stimulatory signal that determines the outcome of activation. The role of this co-stimulatory signal in T cell activation and loss of tolerance in autoimmune MRL-lpr/lpr mice has not been investigated previously. The present study examines the contribution of the CD28/CTLA-4 co-stimulatory pathway to the loss of T cell tolerance in V beta 8 transgenic MRL-lpr/lpr and (-)+/+ mice in which neonatal tolerance has been induced by the superantigen staphylococcal enterotoxin B (SEB). An artificial APC transfected with the murine B7 gene, and a CTLA-4- ***Ig*** ***fusion*** ***protein*** were used to analyze the significance of the CD28/CTLA-4 pathway in vitro. The CTLA-4- ***Ig*** ***fusion*** ***protein*** was also used to inhibit the pathway in vivo. Our results demonstrate that CD28 and CTLA-4 mRNA was overexpressed in the lymph nodes of lpr/lpr mice (MRL, C57BL/6, C3H and AKR), but not in +/+ mice of the same background strain. Lymph node T cells and thymocytes from SEB neonatally tolerized MRL-lpr/lpr mice that had undergone tolerance loss, proliferated when cultured with SEB and B7+ fibroblasts in vitro, but did not proliferate when the SEB was presented in the context of B7- fibroblasts. This in vitro tolerance loss could be prevented by blocking of B7 signaling by CTLA-4-Ig. This loss of tolerance did not occur in lymph node T cells from thymectomized MRL-lpr/lpr mice. SEB challenge of tolerized MRL-lpr/lpr mice in vivo led to weight loss, increased serum cytokine levels and depletion of V beta 8+ T cells. These effects were blocked by blocking of the co-stimulatory pathway by treatment with the CTLA-4- ***Ig*** ***fusion*** ***protein*** prior to and during challenge with SEB. T cells from thymus and lymph nodes of these mice did not proliferate later in response to stimulation in vitro with SEB even in the presence of B7+ APC. Nonresponsiveness was not due to deletion of V beta 8+ CD28+ T cells, as the number of these cells was increased after treatment with SEB and the CTLA-4- ***Ig*** ***fusion*** ***protein*** .(ABSTRACT TRUNCATED AT 250 WORDS)

L4 ANSWER 7 OF 8 MEDLINE
AN 94033725 MEDLINE
DN 94033725
TI Current applications of COS cell based transient expression systems.
AU Edwards C P; Aruffo A
CS Bristol-Myers Squibb Pharmaceutical Research Institute, Seattle..
SO CURRENT OPINION IN BIOTECHNOLOGY, (1993 Oct) 4 (5) 558-63. Ref: 34
Journal code: A92. ISSN: 0958-1669.
CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS B
EM 199402
AB An ever increasing number of mammalian expression systems have become available in recent years. Yet a simple and robust mammalian expression system is all that is needed for most routine mammalian expression work. The well established COS cell based expression systems have filled this role and continue to be used to study gene expression, to clone by expression, to produce small quantities of recombinant protein, and to test the efficacy of mammalian expression constructs. Recent applications of COS cell based expression systems in these areas include the following: studies on the role of AU-rich regions localized in the 3' untranslated regions of mRNA transcripts in mRNA half-life; the cloning of the leukocyte antigens CD34 and CD69 as well as the type-II and type-III TGF-beta receptors; and the production of a soluble recombinant form of the gamma delta ***T*** - ***cell*** ***receptor*** and a bispecific ***Ig*** ***fusion*** ***protein*** of the endothelial cell-surface proteins E-selectin and P-selectin.

L4 ANSWER 8 OF 8 MEDLINE DUPLICATE 7
AN 92113243 MEDLINE
DN 92113243
TI Intercellular adhesion molecule-2, a second counter-receptor for CD11a/CD18 (leukocyte function-associated antigen-1), provides a costimulatory signal for ***T*** - ***cell*** ***receptor*** -initiated activation of human T cells.
AU Damle N K; Klussman K; Aruffo A
CS Bristol-Myers Squibb Pharmaceutical Research Institute, Seattle, WA 98121.
SO JOURNAL OF IMMUNOLOGY, (1992 Feb 1) 148 (3) 665-71.
Journal code: IFB. ISSN: 0022-1767.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199204
AB Activation of T cells often requires both activation signals delivered by ligation of the TCR and those resulting from costimulatory interactions between certain T cell surface accessory molecules and their respective counter-receptors on APC. CD11a/CD18 complex on T cells modulate the activation of T cells by interacting with its counter-receptors intracellular adhesion molecule (ICAM-1) (CD54) and/or ICAM-2 on the surface of APC. The costimulatory ability of ICAM-1 has been demonstrated. Using a soluble ICAM-2 ***Ig*** ***fusion*** ***protein*** (receptor globulin, Rg) we demonstrate the costimulatory effect of ICAM-2 during the activation of CD4+ T cells. When coimmobilized with anti-TCR-1 mAb ICAM-2 Rg induced vigorous proliferative response of CD4+ T cells. This costimulatory effect of ICAM-2 was dependent on its coimmobilization with mAb directed at the CD3/TCR complex but not those directed at CD2 or CD28. Both resting as well as Ag-primed CD4+ T cells responded to the costimulatory effects of ICAM-2. The addition of mAb directed at the CD11a or CD18 molecules almost

completely inhibited the responses to ICAM-2 Rg. These results are consistent with the role of CD11a/CD18 complex as a receptor for ICAM-2 mediating its costimulatory effects. Stimulation of T cells with coimmobilized anti-TCR-1 and ICAM-2 resulted in the induction of IL-2R (CD25), and anti-Tac (CD25) mAb inhibited this response suggesting the contribution of endogenously synthesized IL-2 during this stimulation. These results demonstrate that like its homologue ICAM-1, ICAM-2 also exerts a strong costimulatory effect during the TCR-initiated activation of T cells. The costimulatory effects generated by the CD11a/CD18:ICAM-2 interaction may be critical during the initiation of T cell activation by ICAM-1low APC.

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=> s MHC (subunit! or molecule)!

MISSING OPERATOR 'MHC (SUBUNIT!'
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nested terms that are not separated by a logical operator.

=> s MHC (subunit! or molecule!)

MISSING OPERATOR 'MHC (SUBUNIT!'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s MHC and (subunit! or molecule!)

L5        25341 MHC AND (SUBUNIT! OR MOLECULE!)

=> s l1 and l5

L6            9 L1 AND L5

=> dup rem l6

PROCESSING COMPLETED FOR L6
L7            4 DUP REM L6 (5 DUPLICATES REMOVED)

=> d l7 1-4 bib ab


L7   ANSWER 1 OF 4  MEDLINE                                  DUPLICATE 1
AN   95325579     MEDLINE
DN   95325579
TI   Antigen-presenting T cells induce the development of cytotoxic CD4+
     T cells. I. Involvement of the CD80-CD28 adhesion   ***molecules***
     .
AU   Mauri D; Wyss-Coray T; Gallati H; Pichler W J
CS   Institute of Immunology and Allergology, Inselspital, Bern,
     Switzerland..
SO   JOURNAL OF IMMUNOLOGY, (1995 Jul 1) 155 (1) 118-27.
     Journal code: IFB. ISSN: 0022-1767.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM   199510
AB   The development of cytotoxic CD4+ T lymphocytes that can kill target
```

cells in a ***MHC*** class II-restricted manner was evaluated by comparing different APCs. B-lymphoblasts (B-LCL) pulsed with the superantigen staphylococcus enterotoxin B or allogeneic B-lymphoblasts induce CD4+ T cells without cytotoxic activity. In contrast, superantigen-pulsed, ***MHC*** class II+ T cell blasts or allogeneic T cell blasts preferentially induce the development of specific, ***MHC*** class II-restricted CD4+ cytotoxic effector cells. CD4+ T cell clones generated with T or B cell blasts as APCs (T- or B-APCs) differ in their cytolytic potential, but secrete a similar cytokine pattern. Our data implicate that activated T-APCs preferentially induce a cytotoxic, CD8+ and CD4+ T cell response. Because the density of CD80 expression is lower on activated T-APCs than on B-APCs, we studied the involvement of CD28 and CD80 adhesion ***molecules*** in the generation of CD4+ CTLs. Partial blockade of the CD80 molecule with a CTLA4- ***Ig*** ***fusion*** ***protein*** and with specific anti-CD80 mAbs on B-APCs enhanced the generation of CD4+ CTLs. Specific anti-CD86 mAbs, on the contrary, had no effect on the generation of CD4+ CTLs. In contrast, stimulation of CD28, the CD80 counter-receptor, with a cross-linked B7- ***Ig*** ***fusion*** ***protein*** or with an anti-CD28 mAb, inhibited the generation of CD4+ CTLs. Thus, a reduced interaction between CD80 and CD28 may be relevant for the induction of CD4+ CTLs. This shows a new and not yet described function of these adhesion ***molecules*** . This induction of a cytotoxic immune response by T cells as APCs may be relevant for the anticlonotypic regulation of T cells and for the depletion of CD4+ T cells in HIV infection.

L7 ANSWER 2 OF 4 BIOSIS COPYRIGHT 1998 BIOSIS
AN 94:406093 BIOSIS
DN 97419093
TI Expression of functional B7 and CTLA4 on rheumatoid synovial T cells.
AU Verwilghen J; Lovis R; De Boer M; Linsley P S; Haines G K; Koch A E; Pope R M
CS Div. Rheumatol., 303 East Chicago Ave., W3-315, Chicago, IL 60611-3008, USA
SO Journal of Immunology 153 (3). 1994. 1379-1385. ISSN: 0022-1767
LA English
AB To assess the role of B7, CTLA4, and CD28 in the pathogenesis of chronic synovitis we analyzed the expression and function of these cell surface ***molecules*** in patients with rheumatoid arthritis, osteoarthritis, and psoriatic arthritis, and in normal controls. Immunoperoxidase staining of rheumatoid synovial membranes showed reactivity of 30% of T cells with anti-B7 mAb, in contrast to osteoarthritic and normal synovial membranes, in which no such staining was seen. In addition, rheumatoid synovial fluid T cells were positive by flow cytometric analysis for B7 (mean 20%, range 0 to 96%), as measured by staining with anti-B7 mAb or the CTLA4 ***Ig*** ***fusion*** ***protein*** , whereas no B7 expression was detected on peripheral blood T cells (mean 1%). To analyze the functional importance of B7 expressed on synovial fluid T cells, we used these cells as stimulator cells in primary allogeneic MLC. Purified synovial fluid T cells were far stronger stimulator cells compared with paired peripheral blood T cells and resulted in a fivefold greater increase in allogeneic T cell proliferation. Furthermore, the proliferation induced by purified synovial T cells was markedly inhibited by addition of the CTLA4 ***Ig*** .

fusion ***protein*** (77%). Moreover, anti-B7 mAb (37%), anti-CTLA4 mAb (33%), and Fab fragments of anti-CD28 mAb (52%) partially inhibited the primary MLC. The expression of functional B7, together with the increased expression of ***MHC*** class II ***molecules*** , indicates that synovial T cells may serve as functional APCs and may be capable of autocrine stimulation via the CD28 activation pathway.

L7 ANSWER 3 OF 4 MEDLINE DUPLICATE 2
AN 94300100 MEDLINE
DN 94300100
TI Expression of functional B7 and CTLA4 on rheumatoid synovial T cells.
AU Verwilghen J; Lovis R; De Boer M; Linsley P S; Haines G K; Koch A E; Pope R M
CS Department of Medicine, Northwestern University, Chicago, IL..
NC AR-30692 (NIAMS)
SO JOURNAL OF IMMUNOLOGY, (1994 Aug 1) 153 (3) 1378-85.
Journal code: IFB. ISSN: 0022-1767.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199410
AB To assess the role of B7, CTLA4, and CD28 in the pathogenesis of chronic synovitis we analyzed the expression and function of these cell surface ***molecules*** in patients with rheumatoid arthritis, osteoarthritis, and psoriatic arthritis, and in normal controls. Immunoperoxidase staining of rheumatoid synovial membranes showed reactivity of 30% of T cells with anti-B7 mAb, in contrast to osteoarthritic and normal synovial membranes, in which no such staining was seen. In addition, rheumatoid synovial fluid T cells were positive by flow cytometric analysis for B7 (mean 20%, range 0 to 96%), as measured by staining with anti-B7 mAb or the CTLA4 ***Ig*** ***fusion*** ***protein*** , whereas no B7 expression was detected on peripheral blood T cells (mean 1%). To analyze the functional importance of B7 expressed on synovial fluid T cells, we used these cells as stimulator cells in primary allogeneic MLC. Purified synovial fluid T cells were far stronger stimulator cells compared with paired peripheral blood T cells and resulted in a fivefold greater increase in allogeneic T cell proliferation. Furthermore, the proliferation induced by purified synovial T cells was markedly inhibited by addition of the CTLA4 ***Ig*** ***fusion*** ***protein*** (77%). Moreover, anti-B7 mAb (37%), anti-CTLA4 mAb (33%), and Fab fragments of anti-CD28 mAb (52%) partially inhibited the primary MLC. The expression of functional B7, together with the increased expression of ***MHC*** class II ***molecules*** , indicates that synovial T cells may serve as functional APCs and may be capable of autocrine stimulation via the CD28 activation pathway.

L7 ANSWER 4 OF 4 SCISEARCH COPYRIGHT 1998 ISI (R)
AN 93:589585 SCISEARCH
GA The Genuine Article (R) Number: LY555
TI THE B7 ADHESION MOLECULE IS EXPRESSED ON ACTIVATED HUMAN T-CELLS - FUNCTIONAL INVOLVEMENT IN T-T CELL-INTERACTIONS
AU WYSSCORAY T; MAURIHELLWEG D; BAUMANN K; BETTENS F; GRUNOW R; PICHLER

W J (Reprint)
CS INSELSPITAL BERN, INST CLIN IMMUNOL, CH-3010 BERN, SWITZERLAND
CYA SWITZERLAND
SO EUROPEAN JOURNAL OF IMMUNOLOGY, (SEP 1993) Vol. 23, No. 9, pp. 2175-2180.
ISSN: 0014-2980.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 32
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The B cell antigen B7 delivers a strong co-stimulatory signal for the activation of T cells by binding to its ligands CD28 and CTLA4. Here we demonstrate the surface expression of the B7 molecule on activated human T cells in vitro and under certain conditions in vivo and its functional importance in T-T cell interactions. B7 was detected by flow cytometry on antigen-specific CD4+ and allospecific CD8+ cloned T cells from different donors with anti-B7 monoclonal antibody (mAb) or a soluble CTLA4-Cgamma1 chimera molecule and by reverse transcription-polymerase chain reactions. The expression of B7 was up-regulated following restimulation of the T cell clones and peaked after 7-9 days. Moreover, we show that the B7 molecule on T cells is functionally involved in T-T cell interactions: mAb to CD28 and the CTLA4- ***Ig*** ***fusion*** ***protein*** could inhibit the proliferation of specific T cell clones in response to T cells as antigen-presenting cells (APC) or the proliferation of peripheral blood mononuclear cells in a primary allostimulation with activated T cells as stimulator cells. Finally, we found that B7 can be expressed on freshly isolated circulating T cells since in a preliminary study with a limited number of patients, B7 was present on a subset of CD3+ cells. B7 was expressed on activated T cells (CD4+ and CD8+) of certain human immunodeficiency virus (HIV)-infected individuals (0.5-20% B7+CD8+ cells) or some patients with autoimmune diseases whereas CD3+ cells of healthy individuals did not express B7. The coexpression of major histocompatibility complex class II ***molecules*** and B7 may be relevant for the capacity of activated T cells to function as APC. The expression of B7 on T cells in vivo in autoimmune diseases and in HIV infection may be important for a better understanding of these diseases.

=> s (TCR subunit) and (Ig-fusion protein)

L8 0 (TCR SUBUNIT) AND (IG-FUSION PROTEIN)